

SEQUENCE LISTING

<110> DANIELL, HENRY

<120> PRODUCTION OF PHARMACEUTICAL PROTEINS IN TRANSGENIC  
PLASTIDS

<130> 1465-PCT-US-00

<140> 09/807,742

<141> 2001-04-18

<150> PCT/US01/06288

<151> 2001-02-28

<160> 19

<170> PatentIn Ver. 2.1

<210> 1

<211> 1250

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<220>

<223> This sequence may encompass 1-250 Gly Val Gly Val Pro  
repeats

<400> 1

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1 5 10 15

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
20 25 30

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
35 40 45

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
50 55 60

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
65 70 75 80

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
85 90 95

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
100 105 110

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
115 120 125



Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
435 440 445

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
450 455 460

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
465 470 475 480

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
485 490 495

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
500 505 510

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
515 520 525

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
530 535 540

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
545 550 555 560

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
565 570 575

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
580 585 590

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
595 600 605

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
610 615 620

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
625 630 635 640

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
645 650 655

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
660 665 670

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
675 680 685

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
690 695 700

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
705 710 715 720

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
725 730 735

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
740 745 750

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
755 760 765

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
770 775 780

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
785 790 795 800

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
805 810 815

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
820 825 830

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
835 840 845

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
850 855 860

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
865 870 875 880

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
885 890 895

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
900 905 910

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
915 920 925

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
930 935 940

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
945 950 955 960

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
965 970 975

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
980 985 990

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
995 1000 1005

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
1010 1015 1020

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
1025 1030 1035 1040

5

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
1045 1050 1055

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
1060 1065 1070

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
1075 1080 1085

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
1090 1095 1100

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
1105 1110 1115 1120

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
1125 1130 1135

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
1140 1145 1150

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1155 1160 1165

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
1170 1175 1180

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
1185 1190 1195 1200

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
1205 1210 1215

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
1220 1225 1230

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
1235 1240 1245

Val Pro  
1250

<210> 2  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Illustrative  
endoplasmic reticulum retention signal

<400> 2  
Ser Glu Lys Asp Glu Leu  
1 5

<210> 3  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Illustrative peptide

<400> 3  
 Gly Pro Gly Pro  
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<210> 4  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 4  
 ccgtcgacgt agagaagtcc gtatt

25

<210> 5  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 5  
 gcccatggta aaatcttggt ttattta

27

<210> 6  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 6  
 cctttaaaaa gccttccatt ttctattt

28

<210> 7  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 7  
gccatggttaa aatcttggtt tatta

25

<210> 8  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Illustrative  
preferred nucleotide sequence

<400> 8  
tttcgtttca gt

12

<210> 9  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 9  
Ala Val Gly Val Pro  
1 5

<210> 10  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Illustrative  
peptide

<400> 10  
Glu Asn Leu Tyr Phe Gln Gly  
1 5

<210> 11  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Illustrative  
peptide

<400> 11  
Leu Val Pro Arg Gly Ser  
1 5

<210> 12  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: 6-His tag

<400> 12  
His His His His His His  
1 5

<210> 13  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 13  
aaaaccgcgtc ctcagttcgg attgc

25

<210> 14  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 14  
ccgcgttggtt tcatcaagcc ttacg

25

<210> 15  
<211> 119  
<212> PRT  
<213> Escherichia coli

<400> 15  
Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro  
1 5 10 15  
Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile  
20 25 30  
Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val  
35 40 45  
Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro  
50 55 60  
Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile  
65 70 75 80



9

Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val  
85 90 95  
Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro  
100 105 110  
Gly Val Gly Val Pro Gly Val  
115

<210> 16  
<211> 260  
<212> DNA  
<213> Homo sapiens

<400> 16  
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gaacgaggct tcttctacac acccaagacc cgccgggagg cagaggacct gcagggtggg 120  
cagggtggagc tgggcggggg ccctgggtgca ggcagcctgc agcccttggc cctggagggg 180  
tccctgcaga agcgtggcat tgtggaacaa tgctgtacca gcctctgctc cctctaccag 240  
ctggagaact actgcaacta 260

<210> 17  
<211> 260  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Chloroplast  
modified proinsulin sequence

<400> 17  
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gaacgtgggt tcttctacac tcctaaaact cgtcgtgaag ctgaagattt acaagtaggt 120  
caagtagaat taggtggtg tcttgggtgct ggttctttac aaccttttagc tttagaaggt 180  
tctttacaaa aacgtggtat tgtagaacaa tgttgtactt ctatttggtc tttatacaca 240  
ttagaaaact actgtaacta 260

<210> 18  
<211> 210  
<212> DNA  
<213> Homo sapiens

<400> 18  
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aggggctttt atttcaacaa gccacagggt tatggctcca gcagtcggag ggcgcctcag 120  
acaggcatcg tggatgagtg ctgcttcagg agctgtgatc taaggagggt ggagatgtat 180  
tgcgaccccc tcaagcctgc caagtcagct 210

<210> 19  
<211> 210  
<212> DNA  
<213> Homo sapiens

<400> 19

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actgggtattg tagatgaatg ttgtttccgt tcttgtgatt tacgtcgttt agaaatgtac 180
tgtgctcctt taaaacctgc taaatctgct 210
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